Applicability of the Dutch 'Energiesprong' model to British Columbia

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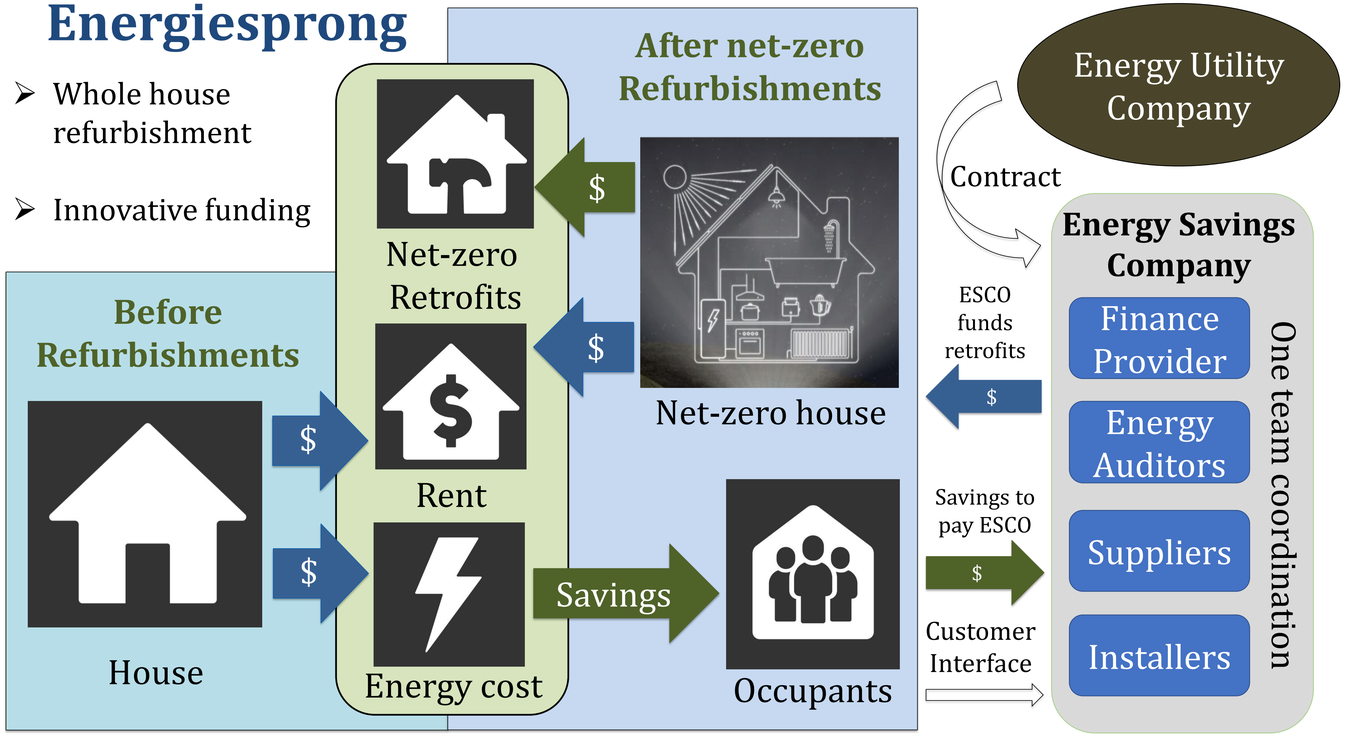
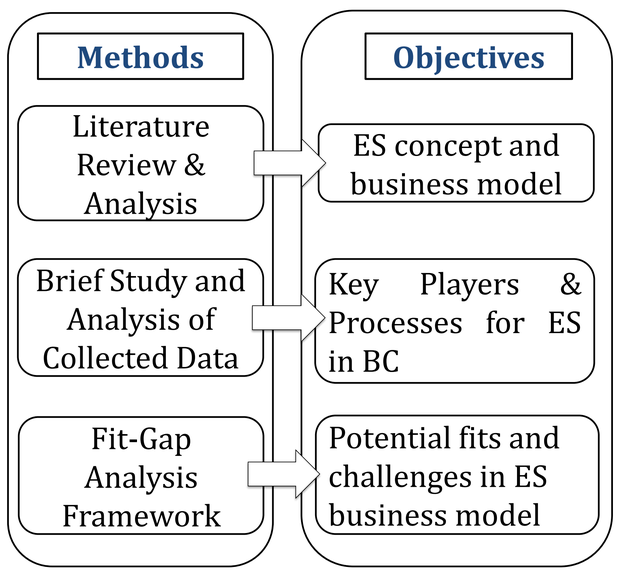
Energiesprong

- Whole house refurbishment
- Innovative funding



Fit-Gap analysis for Energiesprong Business Model approach in British Columbia

BM Components	Potential Fits	Potential Gaps
The Value Proposition	Guarantee for Energy performance and Indoor environmental quality	Diverse weather affects energy performance
The Supply Chain	BIM for energy auditors, Just in time (JIT) for manufacturers	Significant distance among major cities
The Customer Interface	One stop shop strategy	Policy
The financial model	Revenue over the long term	Policy
The BM governance	One team coordination, Energy supply contract	Policy



Key factors for Energiesprong implementation in BC

Key Players

- Social housing providers
- The Government
- Finance Providers
- Manufacturers
- Construction company
- Tenants

Key Processes

- Market aggregation
- Policy adjustments
- Management such as BIM or JIT
- Energy Modeling
- Installations
- Monitoring & Maintenance

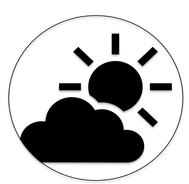
Conclusions

Approximately 100,000 Non-profit affordable housing built before 1990

Potential first market for Energiesprong

BC Energy Step Code (2017)

Does not facilitate sustainable retrofits



- Diverse climate
- Significant distance among cities

A challenge which requires further research

Key References

1. Frontier Economics et. al, 2016
2. D. Brown, "Business models for residential retrofit in the UK: a critical assessment of five key archetypes," *Energy Efficiency*, 2018.
3. Pembina Institute, "Building Energy Retrofit Potential in B.C. Thought Leader Forum — Vancouver," 2016
4. Sustainable Buildings Canada, "Energiesprong Summary Report."
5. M. Almeida and M. Ferreira, "Ten questions concerning cost-effective energy and carbon emissions optimization in building renovation".
6. Energiesprong.eu